

The diagram illustrates a system for detecting near-end speech activity in a telephone network. It consists of the following components and connections:

- Telephone (emulated) 10**: Represented by a wavy vertical box on the left.
- Voice Network 12**: Represented by a wavy vertical box on the right.
- Near-End Speech 14**: A signal path from the Telephone (emulated) 10 to the Voice Network 12.
- Far-End Speech (with Echo) 16**: A signal path from the Voice Network 12 back to the Telephone (emulated) 10.
- Voice Activity Detection 20**: A central rectangular block that receives input from the Near-End Speech 14 (via arrow 22) and outputs to the Utilization Device 28 (via arrow 26).
- Utilization Device 28**: A small rectangular block that receives input from the Voice Activity Detection 20 (via arrow 26) and outputs to the Voice Activity Detection 20 (via arrow 24).
- Annotation**: A box containing the text "Near-end speech is echoed by the voice network." with a line pointing to the Far-End Speech (with Echo) 16 path.

FIG. 1 is a block diagram of a speech processing system. The system consists of the following components and data flow:

- Input 24:** An arrow labeled '24' points into the 'Far-End Audio' block.
- Far-End Audio 32:** A block labeled 'Far-End Audio' with reference numeral '32' and '[24]' below it. It outputs to the 'FFT Power Processing' block.
- FFT Power Processing 30:** A block labeled 'FFT Power Processing' with reference numeral '30'. It outputs to the 'Freq. Buffer' block.
- Freq. Buffer 34:** A block labeled 'Freq. Buffer [64]' with reference numeral '34'. It outputs to the 'Frame Validation' block.
- Frame Validation 40:** A block labeled 'Frame Validation' with reference numeral '40'. It receives input from the 'Freq. Buffer' and the 'Near-End / Far-End Power Comparison' block. It outputs to the 'Flywheel' block.
- Near-End / Far-End Power Comparison 56:** A block labeled 'Near-End / Far-End Power Comparison' with reference numeral '56'. It outputs to the 'Frame Validation' block via an arrow labeled 'Enable'.
- Frame Detect? 46:** An arrow labeled 'Frame Detect?' with reference numeral '46' connects the 'Frame Validation' block to the 'Flywheel' block.
- Flywheel 50:** A block labeled 'Flywheel' with reference numeral '50'. It outputs to the 'Voice Decision' block.
- Voice Decision 28:** An arrow labeled 'Voice Decision' with reference numeral '28' points out from the 'Flywheel' block.

FIG. 2

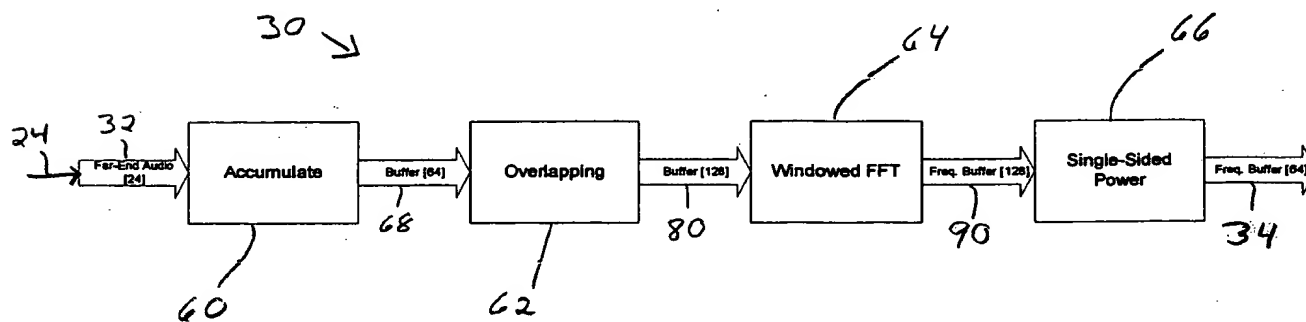


FIG. 3

↑ 30

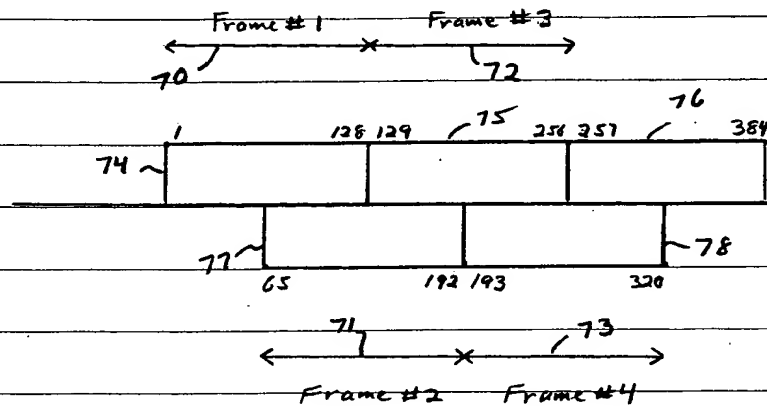


FIG. 4

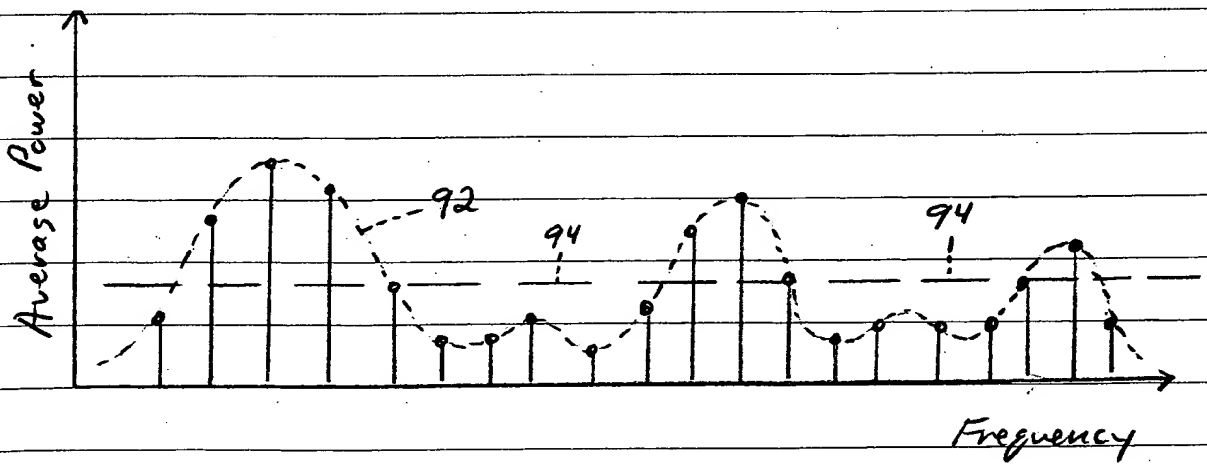


FIG. 6

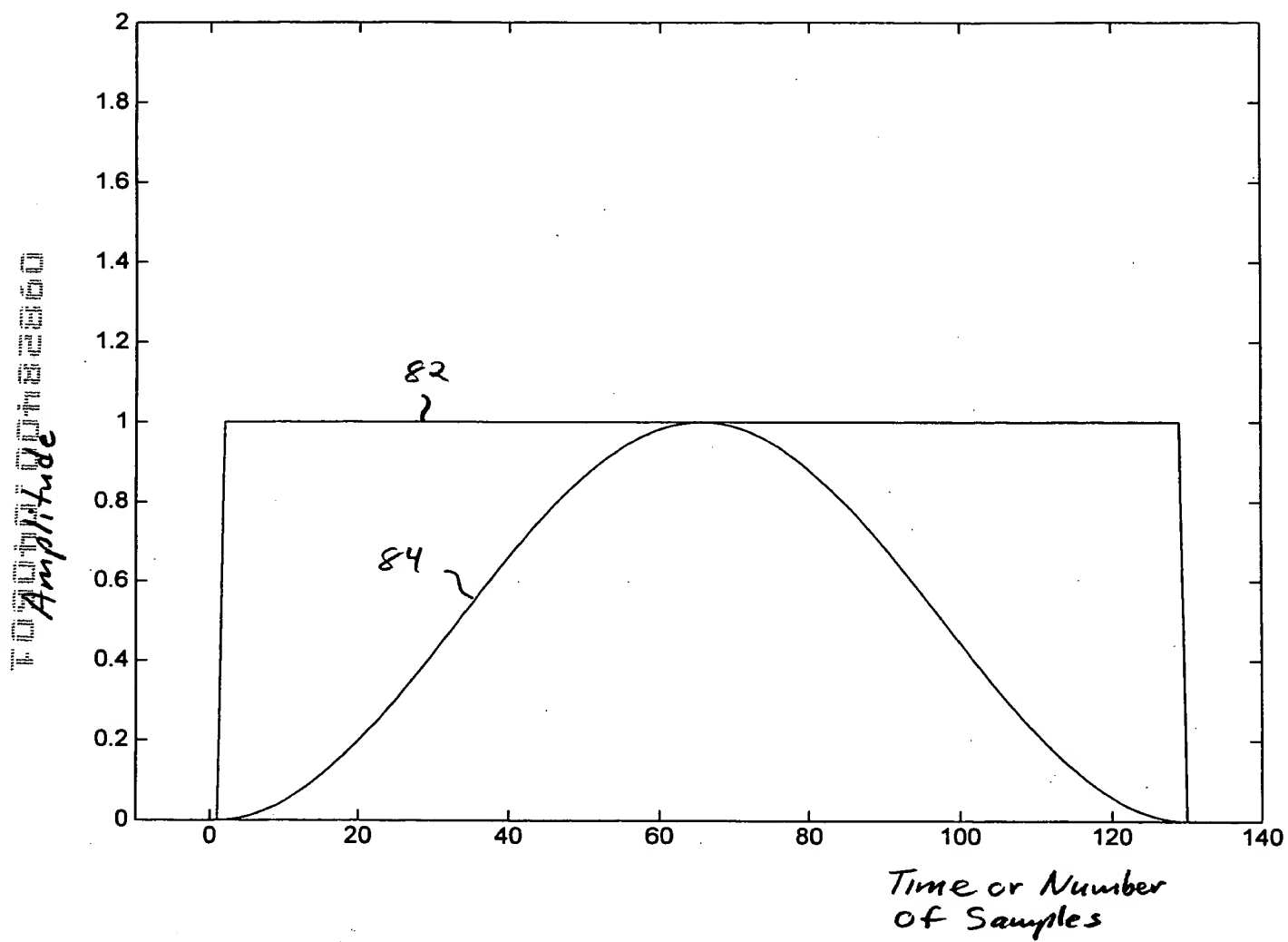


FIG. 5

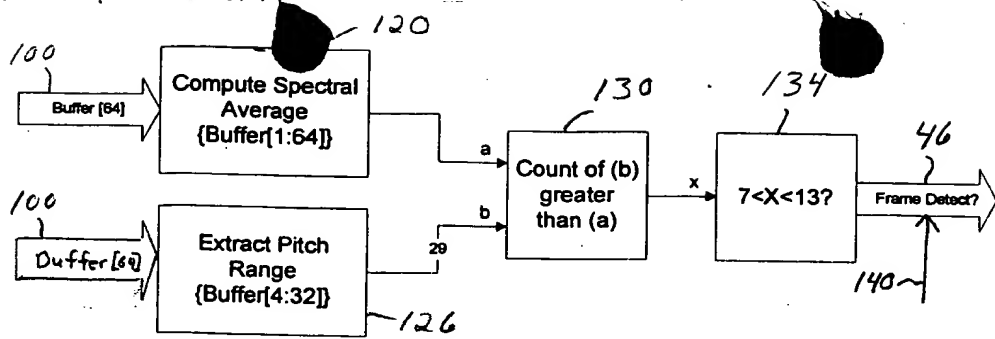


FIG. 7

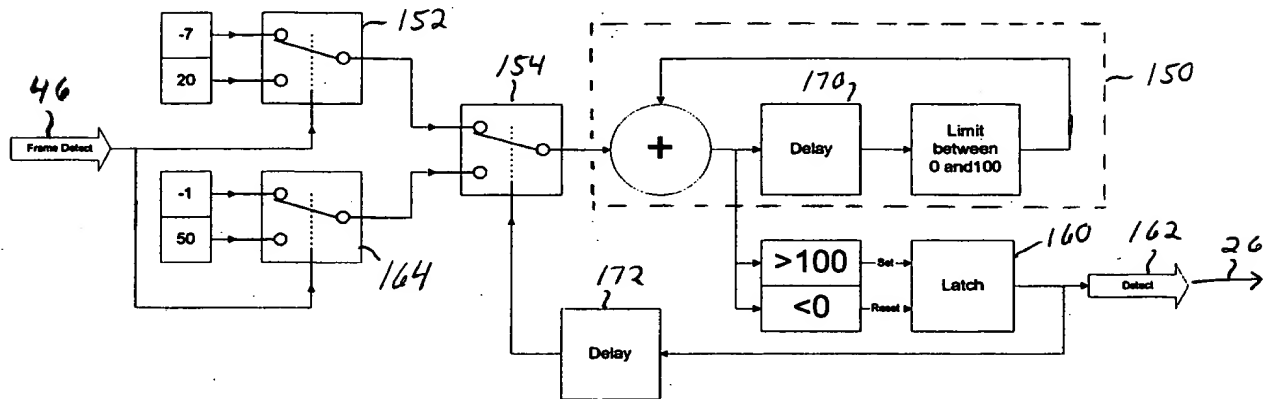


FIG. 8

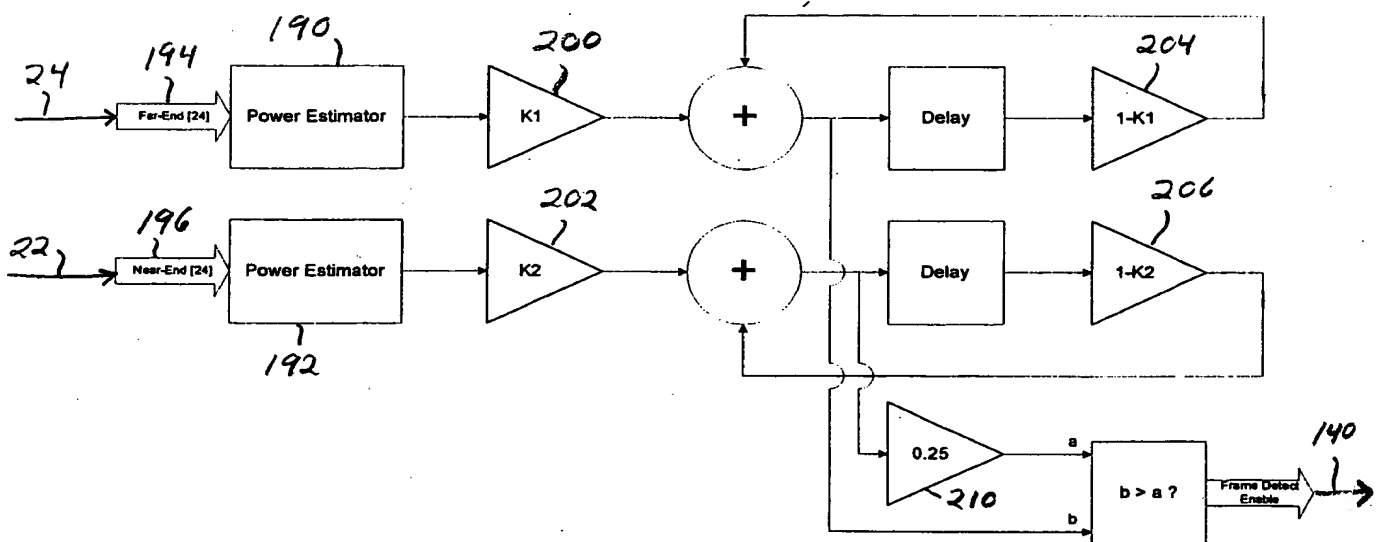


FIG. 9